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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Hollingsworth & Funk, LLC 8009 34th Avenue South Suite 125 Minneapolis, MN 54425			EXAMINER BLAIR, KILE O	
			ART UNIT 2614	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/560,675	Applicant(s) GORGES ET AL.	
	Examiner Kile O. Blair	Art Unit 2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Objections

Claim 14 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The claim limitations set forth in claim 11 are completely anticipated by the respective parent claim, claim 11, and are therefore not further limiting as required by 37 CFR 1.75(c).

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 8-10 are rejected under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention. Supreme Court precedent and recent Federal Circuit decisions indicate that a statutory "process" under 35 U.S.C. 101 must (1) be tied to another statutory category (such as a particular apparatus), or (2) transform underlying subject matter (such as an article or material) to a different state or thing. While the instant claims recite a series of steps or acts to be performed, the claims neither transform underlying subject matter nor are positively tied to another statutory category that accomplishes the claimed method steps, and therefore do not qualify as a statutory

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process. Claim 10 recites a computer data signal embodied in a carrier wave and representing a program which does not fall into one of the four statutory categories under 35 U.S.C. 101. Claims 8 and 9 recite a computer program product. Page 7, line 35- page 8, line 1 of Applicant's specification discloses that a computer data signal is embodied in a carrier wave, therefore claims 8 and 9 can be reasonably interpreted in view of the specification as a claim to an energy signal or carrier wave which is non-statutory subject matter. The claims only require that information be embodied in an energy wave; hence they do not require transformation of any of the underlying subject matter.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Regarding claim 2, "wherein a speed said long term controlling of the power..." is improper grammar and renders the claim indefinite. The Examiner has interpreted the claim to mean that the long term power controlling takes an amount of time dependent on the difference between the detected input signal and the long term control threshold maximum when the long term power control starts to reduce the gain.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-7 and 11-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Bonneville (US Pat. No. 5,729,611).

Regarding claim 1, Bonneville teaches a method for operating a dynamic range power control of an audio signal (providing first and second gain control signals, col. 2, lines 31-34), with an adaptive threshold (two different predetermined levels, col. 2, lines 31-34), wherein said dynamic range control comprises an audio signal input (audio input, fig. 1), an audio signal output (electroacoustic transducer unit 10, fig. 1, col. 3, lines 16-19) and a power control comprising: receiving at least two thresholds comprising a maximum power level for short time interval operation and a maximum power level for long time operation of an electro acoustic transducer (first and second levels, col. 2, lines 30-48), detecting the power of the audio signal input continuously (motion sensor 28 monitors loudspeaker cone movement which is caused by input signal, col. 3, lines 29-32), short term controlling the power of the audio signal output wherein the power of the output is reduced to said maximum power level for short time operation (when the high threshold is exceeded, the second control signal reduces the gain of the amplifier very rapidly, abstract), if the detected power of said audio signal input exceeds said maximum power level for short time interval operation (very rapid

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gain reduction, abstract), and long term controlling the power of the audio signal output wherein the power of the output signal is reduced to said maximum power level for long time operation (when the lower threshold is exceeded, the first control signal reduces the gain of the amplifier at a relatively slow rate, abstract), if the detected power of said audio signal input is exceeding said maximum power level for long time operation (decreases at a slower rate, abstract), for a predetermined time period, wherein said long term control overrides said short term control (the first control signal acts even when the threshold of the second control is no longer exceeded, col. 5, lines 7-19).

Regarding claim 2, Bonneville teaches a method according to claim 1, wherein a speed said long term controlling of the power of the signal is performed depending from the difference power between said detected input signal and said maximum power level for long time operation (difference between the proportional signal and the first threshold, col. 2, lines 49-57).

Regarding claim 3, Bonneville teaches a Method according to claim 1, wherein said thresholds are received from said electro acoustic transducer (the thresholds are based on where the power amplifier out from the speakers will start clipping, col. 4, lines 8-14).

Regarding claim 4, Bonneville teaches a method according to claim 1, wherein said long term control comprises a smooth reduction of said output power level (when the lower threshold is exceeded, the first control signal reduces the gain of the amplifier at a relatively slow rate, abstract).

Regarding claim 5, Bonneville teaches a method according to claim 1, wherein said long term control comprises a time interval controlled smooth reduction of said output power level (when the lower threshold is exceeded, the first control signal reduces the gain of the amplifier at a relatively slow rate, abstract).

Regarding claim 6, Bonneville teaches a method according to claim 1, wherein said short term control comprises an immediate reduction of said output power level (when the high threshold is exceeded, the second control signal reduces the gain of the amplifier very rapidly, abstract).

Regarding claim 7, Bonneville teaches a method according to claim 1, wherein said power control comprises a digital power control having a digital control range and an analog power control having an analog power control range, wherein said signal volume is controlled analogously at signal levels lower than the control range of said analog control, and said signal power is controlled digitally at signal levels higher than the control range of said digital control, and wherein the power control ranges of said analog and digital controls are not overlapping (the threshold components can be operated digitally and the main signal path can be operated analogously, col. 5, lines 51-57).

Regarding claim 11, Bonneville teaches a dynamic range controller with an adaptive threshold (two different predetermined levels, col. 2, lines 31-34) comprising: an audio signal input (audio input, fig. 1), an audio signal output (electroacoustic transducer unit 10, fig. 1, col. 3, lines 16-19), means to continuously detect the power of the audio signal and a power controller (motion sensor 28 monitors loudspeaker cone

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movement which is caused by input signal, col. 3, lines 29-32), wherein said dynamic range controller comprises: means to receive at least two thresholds comprising a maximum power level for short time interval operation (when the high threshold is exceeded, abstract) and a maximum power level for long time operation of an electro acoustic transducer operation (when the lower threshold is exceeded, the first control signal reduces the gain of the amplifier at a relatively slow rate, abstract), wherein said dynamic range controller is configured to short term control the power of the audio signal output wherein the power of the output is reduced to said maximum power level for short time operation, if the detected power of said audio signal input exceeds said maximum power level for short time interval operation (when the high threshold is exceeded, the second control signal reduces the gain of the amplifier very rapidly, abstract), and wherein said dynamic range controller is configured to long term control the power of the audio signal output wherein the power of the output signal is reduced to said maximum power level for long time operation, if the detected power of said audio signal input is exceeding said maximum power level for long time operation for a predetermined time period (when the lower threshold is exceeded, the first control signal reduces the gain of the amplifier at a relatively slow rate, abstract), wherein said long term control overrides said short term control (the first control signal acts even when the threshold of the second control is no longer exceeded, col. 5, lines 7-19).

Regarding claim 12, Bonneville teaches a dynamic range control according to claim 11, further comprising a soft switch to slowly control the power of the signal

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wherein the power of the output signal substantially equals said maximum power level (the V_{amp} output signal remains stable at V_{TH1} , col. 5, lines 12-19).

Regarding claim 13, Bonneville teaches a dynamic range control according to claim 11, further comprising a timer element to operate said long term control in a timer controlled way (charging circuit 50 with attack time T1a, col. 4, lines 21-28).

Regarding claim 14, Bonneville teaches an electronic audio device comprising an audio signal source and an audio output comprising a dynamic range controller with an adaptive threshold according to claim 11 (two different predetermined levels, col. 2, lines 31-34).

Regarding claim 15, Bonneville teaches an electronic audio device according to claim 14, wherein said audio source is a digital audio signal source (when the audio signal itself is digital, col. 5, lines 58-64) and said audio output is an analog audio output (D/A converter before power amplifier 16 to make output analog, col. 5, lines 58-64).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims, 8-10 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bonneville.

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Regarding claims 8, 9, and 10, although Bonneville does not disclose the invention as a computer program or instructions, it would have been obvious to one of ordinary skill in the art that the circuit could be modeled as a computer program and implemented as an audio device with the motivation of being able to selectively program a computer instead of hardwiring a circuit.

Regarding claim 16, Bonneville teaches an electronic audio device according to claim 14. Although Bonneville does not explicitly disclose the feature wherein the means to receive at least two thresholds comprised in the dynamic range control with an adaptive threshold is implemented by an integrated circuit implemented in a connector of said electro acoustic transducer, it would have been obvious to one of ordinary skill in the art to use an integrated circuit to determine where the amplifier and speakers will start clipping (point at which amplifier and speakers will start clipping, col. 4, lines 8-14) with the motivation of saving physical space on a circuit board.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kile O. Blair whose telephone number is (571) 270-3544. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on (571) 272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KB

/Vivian Chin/
Supervisory Patent Examiner, Art Unit 2614